

Application No.: 10/657,481

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Upon entry of this response, claims 1-7, 13-20, and 26-37 are pending, and of these, claims 1, 14, and 27 are independent. Also, claims 28-37 are new and claims 8-12, and 21-25 are cancelled.

Applicants have amended independent claims 1, 14, and 27 to recite receiving one or more sets of emission intensity data that includes a plurality of emission intensity values from a probe array experiment with an individual sample, the support which may be found on page 26, line 9 *et seq.*; generating a plurality of genotype calls for each set of emission intensity data by applying one or more of the emission intensity values to one or more models enabled to specify nucleic acid composition, the support for which may be found on page 30, line 10 *et seq.*; assembling the genotype calls for each set of emission intensity data into one or more genotype data sets, the support for which may be found on page 36, line 19 *et seq.*; and displaying one or more of the genotype calls of each of the genotype data sets to a user in a graphical user interface comprising a first pane that displays a graphical representation of a first region of sequence associated with the genotype data sets, a second pane that displays a graphical representation of a second region of sequence selected by the user from the first region of sequence, and a third pane that displays a graphical representation of a third region of sequence selected by the user from the second region of sequence, wherein the graphical representation of the third region of sequence displays a representation of sequence composition comprising the one or more genotype calls of each genotype data set, the support for which may be found on page 37, line 11 *et seq.*, and page 38, line 8 *et seq.*

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Applicants have also amended claims 6 and 19 to replace the “(n) call” language with “no call”, the support for which may be found in numerous instances in the application, including page 27, line 17 *et seq.*, and 38, line 16 *et seq.*

In addition, Applicants have added new claims 28-33, the support for which may be found as follows:

*Claims 28 and 33: Page 31, line 17 et seq.*

*Claims 29 and 34: Page 38, line 8 et seq.; and Figure 4B*

*Claims 30 and 35: Page 38, line 8 et seq.*

*Claims 31-32 and 36-37: Page 38, line 8 et seq.*

Applicants respectfully assert that no new matter is presented by these amendments and respectfully request entry of the same.

**Reply to Claim Rejections – 35 U.S.C. §112**

Claims 6, 19, and 10-12 are rejected under 35 U.S.C. §112.

Applicants have amended claims 6 and 19 to replace the “(n) call” language with “no call” which Applicants respectfully assert is definite.

Applicants have cancelled claims 10-12.

Therefore, Applicants respectfully request that the rejections be withdrawn.

**Art Based Rejections**

As described in greater detail below, Applicants respectfully assert that none of the references describe or suggest the invention of the presently amended claims. In fact, none of the references describe displaying genotype calls in a graphical user interface that

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allows the user to easily navigate regions of the same sequence in different panes with varied levels of resolution by making a selection of a sub-region of a displayed sequence in one pane that is displayed in greater detail in a second pane.

For example, the references generally describe characterizing genotypes and monitoring fluorescent signals. Importantly, the references do not describe displaying genotype calls in a graphical user interface that includes multiple panes that display regions of the same sequence comprising genotype calls where the user can easily navigate the regions making selections in one pane that results in a display of the selected region at an increased resolution in another pane. In the present example, the graphical user interface is a useful tool that allows a user to dynamically navigate a sequence region at varying resolutions and visually see the positional relationship of genotype calls. This ability provides the user with an efficient means to derive biological meaning from experiments carried out on individual samples.

Applicants respectfully assert that the amended language of claims 1, 14 and 27 constitutes claim scope that none of the references applied in the rejections describe or suggest either alone or in combination.

**Reply to Claim Rejections – 35 U.S.C. §102**

Claims 1-11, 13-24, 26 and 27 are rejected under 35 U.S.C. §102(e) over Neville (U.S. 2005/0196771 A1).

As described above, Applicants respectfully assert that Neville does not describe the invention of the presently amended claims. In particular, Neville does not describe displaying a graphical user interface with a first pane that displays a graphical

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representation of a first region of sequence associated with the genotype data sets, a second pane that displays a graphical representation of a second region of sequence selected by the user from the first region of sequence, and a third pane that displays a graphical representation of a third region of sequence selected by the user from the second region of sequence that includes a representation of sequence composition comprising the one or more genotype calls of each genotype data set.

Therefore, Applicants respectfully request that the rejections be withdrawn.

**Reply to Claim Rejections – 35 U.S.C. §103**

Claims 12 and 25 are rejected under 35 U.S.C. §103(a) over Neville (U.S. 2005/0196771 A1) in view of Heid (U.S. 2003/0027179).

Upon entry of this response claims 12 and 25 are cancelled. Therefore, Applicants respectfully request that the rejections be withdrawn.

**CONCLUSION**

In conclusion, Applicants have amended each of aims 1, 14, and 27 to include a graphical user interface with multiple panes that display graphical representations of a sequence and genotype calls in varying levels of detail. Applicants respectfully assert that none of the references applied under 35 U.S.C. §102 or §103 describe such elements and thus respectfully assert that each of said claims are patentable. Further, since claims 2-7, 13, 15-20, 26 and 28-33 each depends from one of claims 1, 14, or 27 in their chain of dependency each are thus patentable for the same reasons.

For these reasons, Applicants believe all pending claims are now in condition for allowance. If the Examiner has any questions pertaining to this application or feels that a

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telephone conference would in any way expedite the prosecution of the application,  
please do not hesitate to call the undersigned at (781) 280-1522.

The Commissioner is hereby authorized to charge any additional fees which may  
be required, or credit any overpayment to Deposit Account 01-0431.

Applicants respectfully request that a timely Notice of Allowance be issued in this  
case.

Respectfully submitted,

By: William R. McCarthy III

William R. McCarthy III Reg. No.: 55,788

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Customer No.: 22886  
Legal Department  
Affymetrix, Inc.  
3420 Central Expressway  
Santa Clara, CA 95051  
Tel: 408/731-5000  
Fax: 408/731-5392